Sensory Strategies to Support *Whole Body Listening* in the Classroom

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Abstract

The purpose of this project was to provide general education teachers at Evergreen Primary in University Place, Washington with sensory strategy resources to support the use of *Whole Body Listening* (Sautter & Wilson, 2011) in the classroom. Whole Body Listening was developed as part of the *Social Thinking* curriculum by Michelle Garcia Winner and is a program that teaches how to actively listen with all parts of the body (Think Social Publishing, 2008) and is used as a school-wide program at Evergreen Primary. After initial implementation of the program, teachers reported that some students had challenges implementing the strategies due to difficulties with sensory processing. The school was given commercially available resources for addressing sensory strategies in the classroom and a guide for using the resources, including supporting research. An in-service provided teachers with background information regarding sensory processing challenges as well as available resources and strategies that could be used to support the implementation of Whole Body Listening. Resources and strategies were tailored to specific classroom behaviors identified by teachers in a survey prior to the in-service. After the in-service, 88% of participants reported increased knowledge of sensory processing challenges and knowledge of strategies that may support student learning. As a result of this project, student learning may improve as teachers use sensory strategies in their classrooms in conjunction with Whole Body Listening.

Introduction

Societal changes have resulted in children experiencing difficulties with attention and social skills, both of which are necessary for academic success (Hinshaw, 1992; Kohn, 1977). Although attention and social skills are important, neither can be achieved without processing sensory information (Ayres, 1972; Trott & Taylor, 2011). Estimates of US children affected by sensory processing challenges range from 5.3% to 13.7% (Ahn, Miller, Milberger, & McIntosh, 2004, p. 291), and teachers may not have the strategies to meet these students' needs. The leading theory explaining the processing of sensory information is sensory integration, which describes the need to organize sensory information, give meaning to that information, and respond in a purposeful manner (Ayres, 1972); sensory integration is needed for learning and appropriate behavior (Bundy & Murray, 2002). Thus in order to address students' decreased attention and social skills, consideration of sensory processing challenges to support learning may be needed.

In order to meet the needs of all students potentially impacted by sensory processing challenges, the school-wide intervention approach encouraged by the Individuals with Disabilities Education Improvement Act of 2004 (20 U.S.C.A. § 1400 *et seq.*) is most appropriate (American Occupational Therapy Association, 2006). Intervention addressing sensory processing is best led by occupational therapy (OT) practitioners since they are specialists in supporting active participation in meaningful activities, including learning and social participation at school (American Occupational Therapy Association, 2008), and can therefore educate teachers about sensory strategies to support students. The strategies used to promote sensory processing engage the body's senses and may be effective in improving on-task

behavior and academic performance in children with sensory processing or attention difficulties (Fedewa & Erwin, 2011; Kercood, Grskovic, Lee, & Emmert, 2007; Mahar et al., 2006).

One local school performing school-wide intervention approaches to support student learning is Evergreen Primary in University Place, Washington. Evergreen Primary recently implemented Whole Body Listening to teach how and why to be an engaged listener using the entire body (Think Social Publishing, 2008). Staff requested education on sensory supports to use in conjunction with Whole Body Listening; therefore, this project was created. It included multiple components to remain at the school: commercially available resources for addressing sensory strategies in the classroom, a guide to using the resources, and supporting research. A school-wide in-service provided information regarding sensory processing challenges and available resources containing sensory strategies tailored to specific classroom behaviors mentioned in a survey prior to the in-service; afterwards, 88% of participants reported an increase in knowledge of sensory processing challenges and sensory strategies to support students in the classroom.

Literature Review

Skills for Academic Success

It has been documented as early as forty years ago that problems facing American children included decreased attention and poorer social skills compared to twenty years prior (Kohn, 1977) and the trend continues today (Center for Disease Control and Prevention, 2012). Societal changes related to the widespread use of electronics (Juster, Ono, & Stafford, 2004) contribute to children's difficulties with attention (Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004; Sisson, Broyles, Newton Jr., Baker, & Chernausek, 2011; Swing, Gentile, Anderson, & Walsh, 2010). Similarly, less time spent engaged in free play (Juster, Ono, & Stafford, 2004) negatively affects social skill development (Barros, Silver, & Stein, 2009;

Burdette & Whitaker, 2005; Bundy et al., 2011). These difficulties with attention and social skills impact children's ability to succeed academically (Hinshaw, 1992; Kohn, 1977; K. L. Lane, Pierson, & Givner, 2003; McCall, 1993; Peĉjak et al., 2009; Sarver et al., 2012). Processing sensory information is foundational to both attention and social skills (Ayres, 1972; Trott & Taylor, 2011). Specifically, a child with difficulties processing sensory information may exhibit behavior such as moving constantly in his seat or around the classroom, therefore is unable to attend to what is being taught (see Appendix A for foundational skills needed for academic learning).

Sensory Integration Theory

Since sensory processing is a foundational skill necessary for academic learning, challenges in the ability to interpret and react to sensory information may greatly impact education. The theory explaining the processing of sensory information was developed by Dr. A. Jean Ayres, an occupational therapist with significant expertise in educational psychology and neuroscience. Ayres called this theory *sensory integration* and defined it as "the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body effectively within the environment" (1972, p. 11). Key concepts in sensory integration theory include:

1. Learning is dependent on the ability to take in and process sensation from movement and the environment and use it to plan and organize behavior.
2. Individuals who have decreased ability to process sensation also may have difficulty producing appropriate actions, which, in turn, may interfere with learning and behavior.

3. Enhanced sensation, as a part of meaningful activity that yields an adaptive interaction, improves the ability to process sensation, thereby enhancing learning and behavior (Bundy & Murray, 2002, p. 5).

When sensory integration is effective it results in *modulation*, which is "the ability to regulate and organize reactions to sensory input in a graded and adaptive manner" (McIntosh, Miller, Shyu, & Hager, 1999, p. 1). Poor modulation may be demonstrated through behaviors including impulsivity, distractibility, disorganization, anxiety, increased physical activity, or poor self-regulation (Ayres, 1972; Cohn, Miller, & Tickle-Degnen, 1999). Modulation differs from self-regulation in that modulation is the ability to adjust responses to the environment's demands, while self-regulation more specifically related to the "level of alertness for a task or situation" (Williams & Shellenberger, 2013). One may not be able to achieve the desired level of alertness if the brain in unable to filter sensations adequately, resulting in distraction as the brain attempts to attend to all sensory input. An overly stimulated brain interferes with self-regulation (Ayres, 1972), which in turn may impact performance (S. J. Lane, 2002). At the extreme levels of arousal, performance suffers; however, at more moderate levels of arousal, optimal performance can be attained (S. J. Lane, 2002; Williams & Shellenberger, 2013). In other words, sensory integration impacts performance.

Sensory Strategies

Changing the amount or type of stimulation the body receives may assist the brain in organizing information (Ayres, 1972; S. J. Lane, 2002) and these types of environmental changes should be incorporated into the school environment (Dunn, 2008). Sensory strategies are one way to support student learning through engagement of the senses. Applying the theories developed by Ayres, many studies demonstrate the effective use of sensory input to improve the processing of incoming sensory information. Examples of sensory strategies that can be used in

the classroom effectively include fidgeting (Cloud, 2009), doodling (Schriber Orloff, 2010), chewing gum (Leveille, 2008; Wilkinson, Scholey, & Wesnes, 2002), and auditory stimulation (Abikoff, Courtney, Szeibel, & Koplewicz, 1996; Hall & Case-Smith, 2007; Harper & Weiner, 2010; Price & Hallam, 2003). In addition, the following strategies may assist with attention: tactile input (Kercood, Grskovic, Lee, & Emmert, 2007), weighted vests (Fertel-Daly, Bedell, & Hinojosa, 2001; Hoffman, 2011; Honaker & Rossi, 2005; VandenBerg, 2001), and seating options like balls, cushions, or stand up desks (Bagatell, 2010; Ivory, 2011; Pfeiffer, Henry, Miller, & Witherell, 2008; Schilling, Washington, Billingsley, & Deitz, 2003; Spinabella, 2011). Further, physical activity has been shown to positively influence concentration, memory, classroom behavior, and reading scores (Gilbert, 1977; Lopez & Swinth, 2008; Peck, Kehle, Bray, & Theodore, 2005; Trudeau & Shephard, 2008). Engaging the senses is integral to academic performance (Ayres, 1972; Hannaford, 1995; Houston, 1982); therefore, by providing engagement to the senses, learning may increase. Moreover, failure to adapt the environment to student needs may decrease student participation (Hemmingson & Borrell, 2002).

Legislation

Many students are affected by sensory processing challenges. According to Ahn, Miller, Miliberger and McIntosh, the prevalence of kindergarten children with sensory processing disorders is between 5.3% and 13.7% (2004, p. 291). In addition to the high prevalence of children with sensory processing challenges who may need services, legislation in the Individuals with Disabilities Education Improvement Act [IDEA 2004] (20 U.S.C.A. § 1400 *et seq.*) supports the use of more school-wide intervention approaches.

Other legislation paved the way for IDEA 2004. Previous legislation challenged cultural norms of segregating and discriminating against people with disabilities. The Education for All

Handicapped Children Act of 1975 brought children with disabilities out of separate medical facilities and into classrooms (20 U.S.C.A. § 1400 *et seq.*), and the Americans with Disabilities Act of 1990 gave students the right to a barrier-free classroom (42 U.S.C.A. § 12101 *et seq.*).

Now with IDEA 2004, there is a mandate for students to receive education in the "least restrictive environment" (20 U.S.C.A. § 1412 (a)(5)(A)) and to have "high expectations of [children with disabilities] ensuring their access to the general education curriculum in the regular classroom to the maximum extent possible" (20 U.S.C.A. § 1400 (c)(5)(A)). One approach used to deliver these services is called the *Response to Intervention model*, with more emphasis on serving students in the general education classrooms. This evidence-based model was created in response to the increasing number of general education students with academic challenges at school. The goal of the Response to Intervention model is to provide support to students through the general education curriculum prior to the child failing so that referral to special education services may not be necessary (U.S. Department of Education, 2007). The Response to Intervention model (see Appendix B) has three tiers: Tier 1 includes 80-90% of students served with the general education curriculum, tier 2 includes 5-10% of students needing explicit instruction, and tier 3 includes 1-5% of students needing intensive instruction (National Dissemination Center for Children with Disabilities, 2012).

Occupational Therapy in the Schools

Although legislation pushes for inclusionary practices, changes in the classroom environment may not have occurred at the same rate. General education teachers' training includes foundational knowledge of working with students at a variety of developmental levels but does not include extensive information on ways to support students with disabilities or other learning challenges (Harvard Graduate School of Education, 2013). Teachers may not have the

background regarding strategies for supporting students with difficulties which may be related to sensory processing challenges.

The school-wide approach to intervention encouraged IDEA 2004 specific to addressing sensory processing challenges is best led by OT practitioners (American Occupational Therapy Association, 2006). OT practitioners are specialists skilled in supporting active participation in meaningful activities, including learning and social participation at school (American Occupational Therapy Association, 2008). Although their previous role in schools has been predominantly in special education, OT practitioners can assist in the development of skills needed for all children's academic and future success (American Occupational Therapy Association, 2006). They can also educate general education teachers about strategies to support students with sensory processing challenges. Furthermore, OT practitioners should be leading more school-wide interventions in order to meet the needs of the rising number of students with sensory processing challenges in the least restrictive environment (American Occupational Therapy Association, 2006).

School-wide Programs at Evergreen Primary

One local school working to support students school-wide in general education classes is Evergreen Primary in University Place, Washington. The mission of Evergreen Primary is "to ensure that all students have the academic and social foundations for future learning" (Evergreen Primary, 2012). In addition to improving academic performance, there is an emphasis on improving social skills at Evergreen Primary, namely by the implementation of the "Eagle Pride" program already in place at Evergreen Primary. The Eagle Pride program rewards students when "caught" being responsible, respectful, or safe (Evergreen Primary, 2012) and has been thought

to be successful due to positive changes in student behavior (K. Smith, personal communication April 17, 2012; T. Matthies, personal communication March 1, 2012).

Subsequently, an additional program called Whole Body Listening began at Evergreen Primary in the fall of 2011 to further encourage student learning. Whole Body Listening is a part of the Social Thinking curriculum developed by speech language pathologist Michelle Garcia Winner to teach how and why to be an engaged listener (Sautter & Wilson, 2011; Think Social Publishing, 2008). Social Thinking is different from other social skills programs because it does not target specific behaviors, but rather asks students to consider their own behaviors and then reflect on others' resulting thoughts and emotions (Winner & Crooke, 2009). Crooke, Hendrix, and Rachman found that children taught the Social Thinking curriculum demonstrated an increased number of "expected" or positive social behaviors (2008).

Since teachers wanted more information on this program after hearing about its successes in a few classrooms at Evergreen Primary, University of Puget Sound OT professor Yvonne Swinth gave a school-wide in-service to the teachers on Whole Body Listening in February 2012. The presentation was well received, and many teachers had questions about how to adapt the program for children with difficulties following the Whole Body Listening strategies (Y. Swinth, personal communication March 1, 2012). Therefore, this project was created to educate teachers on sensory supports to use in conjunction with Whole Body Listening.

This need was further confirmed through an electronic survey completed by teachers at Evergreen Primary in April 2013, in which 60% of respondents reported using Whole Body Listening in their classroom, and 100% of respondents reported student difficulties using Whole Body Listening's strategies. The challenges reported appeared to be related to sensory processing challenges, with the most impact on the eyes, hands, body, and mouth, respectively.

Strategies teachers reporting using to encourage student engagement varied widely and included the following strategies: reviewing the Whole Body Listening Poster, sending the student to "Think Time", using a ball as a chair, allowing students to have a two-minute movement break, and adjusting the pace of the lessons.

Purpose of Project

The purpose of this project was to educate general education teachers at Evergreen Primary on sensory strategies to use in conjunction with Whole Body Listening in the classroom. The school was given commercially available resources for addressing sensory strategies in the classroom and a guide to using the resources, including supporting research. A school-wide in-service educated teachers about sensory processing challenges and available resources tailored to specific classroom behaviors mentioned in the survey prior to the in-service.

Overview of the Project

Many professionals were involved in this project (see Appendix C). Kay Smith (kindergarten teacher at Evergreen Primary), Tiffany Matthies (third grade teacher at Evergreen Primary), Lance Goodpaster (principal at Evergreen Primary), Evonne Ryken (OT practitioner at Evergreen Primary), and Yvonne Swinth (University of Puget Sound OT professor) were interviewed in 2012 to determine the need for this project. In addition, four total hours of observation occurred in a kindergarten classroom and third grade classroom. Research was performed on the topic of sensory processing, reasons children may have difficulties with sensory processing, and the effective use of sensory strategies in the general education classroom. Once the project idea was formed, the principal agreed to host an in-service for general education teachers on ways to support student learning though sensory strategies.

Resources that use sensory strategies were reviewed for their usefulness to teachers and select resources were purchased with grants from the University of Puget Sound's University Enrichment Committee and Occupational Therapy Department. A guide for using the resources was developed to guide teacher use of the resources and to provide additional information. The purchased resources, guide to using the resources, and supporting research were given to Evergreen Primary after the in-service.

Prior to the in-service, an online survey (see Appendix D) was sent out to teachers to tailor the in-service to their knowledge level and needs. The in-service was given by Jennifer Baron with the assistance of Yvonne Swinth. Background information on sensory processing dysfunction and effective sensory strategies were explained and demonstrated. Additional information included when to consider referring to OT and ways to determine if the student's issues were primarily sensory or behavior. After the in-service, attendees completed a post-test (see Appendix E) to determine the in-service's effectiveness in improving knowledge of sensory processing challenges and sensory strategies to support students.

Target Population with Key Players Included

Evergreen Primary is a public elementary school in University Place, Washington including kindergarten through fourth grade. In the 2011-2012 academic school year, 496 students attended the school, 38.1% of whom received free or reduced-price meals, and 16.5% of whom were in Special Education (Office of Superintendent of Public Instruction, 2012). Of the students receiving Special Education, some are also in the ACCESS program, which is for students with significant behavioral issues (T. Matthies, personal communication April 13, 2012). There were 30 classroom teachers, all of whom were Elementary and Secondary Education Act "highly qualified" (Office of Superintendent of Public Instruction, 2012).

Lists of Skills and Knowledge Needed

A variety of skills and knowledge were needed to complete this project (see Appendix F). Possession many of the skills and knowledge needed was present prior to this project. Lacking areas included grant writing, effectively using sensory strategies in the classroom, and creating a budget for a project. However, with the guidance and support of Yvonne Swinth, the project was successfully completed.

Materials/Supplies/Equipment Needed and Anticipated Costs

A variety of materials, supplies, and equipment were needed (see Appendix G), for a total cost of $577.27.

Final Product

The final product was six commercially available resources (see Reference Resources' Costs in Appendix G) and a guide to using them including supporting research. Additionally, a one-hour in-service was given to the teachers on April 30, 2013 at Evergreen Primary. A PowerPoint presentation was presented, and teachers were given opportunities to try sensory tools at their tables as well as through demonstration. The guide to using the resources was introduced. It provides background information on sensory processing challenges and ways to use sensory strategies in conjunction with the Whole Body Listening approach used at Evergreen Primary. The guide has eight sections based on the body parts involved in Whole Body Listening: eyes, ears, mouth, hands, feet, body, brain and heart (Sautter & Wilson, 2011); each section includes examples of sensory strategies or activities related to that body part, and references those from the commercially available resources. All of the resources provided to the school are kept in the teacher resource section of the library.

Outcome of Project

Project Goals and Objectives

Goal 1. After the in-service, teachers' knowledge of sensory processing challenges will increase.

Objective 1. Teachers will identify three behaviors that could be related to sensory processing challenges in their students.

Objective 2. Teachers will explain why students may have challenges with sensory processing.

This goal was met on April 30, 2013 as demonstrated by the post-test.

Goal 2. After the in-service, teachers will have additional ideas of ways to address sensory processing challenges in their classroom.

Objective 1. Teachers will identify three ways to support students with sensory processing challenges in the classroom.

Objective 2. Teachers will name at least one resource that can be used to address students' sensory processing challenges.

Objective 3. Teachers will describe when a referral to occupational therapy may be needed.

This goal was met on April 30, 2013 as demonstrated by the post-test.

Goal 3. The resources, guide to using the resources, and supporting research will be useful tools for teachers and easily accessible for future reference.

*Objective 1.*Teachers will be familiar with the types of sensory strategy resources available at Evergreen Primary.

Objective 2. Teachers will know the location of all resources related to this project at Evergreen Primary.

Objective 3. The resource materials will be useful tools for the teachers.

This goal was partially met on April 30, 2013 during the in-service. A follow-up study would be the best way to determine if the teachers found the resource materials useful; however, comments on the post-test were positive and indicated the teachers were looking forward to trying these ideas in their classrooms.

Desired Outcome

As a result of this project, the teachers and staff at Evergreen Primary have resources and knowledge to implement sensory-based strategies in conjunction with Whole Body Listening. Sixteen teachers, the principal, the OT practitioner, and the certified OT assistant were educated about the literature supporting sensory-based strategies in their classroom, and they now have a background in how and why they are effective. Questions asked during the in-service included if students should be allowed to choose their own sensory tool or if all sensory strategies should be led by the teacher, how determine if a child's main issue is primarily sensory or behavior, and the location the resources, guide to using the resources, and supporting research would be kept at Evergreen Primary. According to the post-test, 88% of participants reported that an increase in knowledge of sensory processing challenges and knowledge of strategies that may support student learning. As a result of implementation, student learning may improve as teachers use sensory strategies in conjunction with Whole Body Listening.

Implications for Occupational Therapy

Participating in meaningful activities is the foundation of occupational therapy. At school some students find it difficult to participate in their role as a student, as demonstrated by their frequent disruptions of lessons and disengagement from others. OT practitioners use a different lens than teachers and can use their understanding of the sensory system to assist

teachers in planning ways to manage behaviors of students in the classroom. The goal of this project was to fulfill the request of teachers at Evergreen Primary for strategies to facilitate active engagement of students with sensory processing challenges. Through the in-service, teachers' knowledge of sensory processing challenges and strategies to support students increased; therefore, students' engagement in learning and play at school may increase. Working with teachers to support student learning in the least restrictive environment is aligned with the American Occupational Therapy Association's goals of moving from working with individual students on a "caseload" to groups of students through a "workload "(2006). By serving more students on a system-wide level, OT practitioners are supporting the implementation of the Response to Intervention model (American Occupational Therapy Association, 2006).

Model and Application of the Framework

The Occupational Adaptation Model

The Occupational Adaptation Model is based on the integration of occupation and adaptation (Schultz, 2009). This model is broader than "occupational readiness interventions" like sensory integration because it focuses more on the process of adapting to needs rather than teaching skills or providing assistive devices. At Evergreen Primary, teachers are already using this model by requesting ideas of ways to support students with sensory processing challenges noted during Whole Body Listening. As a result of this project, rules and routines of classrooms may change as teachers see fit in order to meet student needs. The ultimate goal is that through the use of these sensory strategies, student learning will increase.

Application of the OT Practice Framework

The goal of this project, which was to provide teachers with resources and strategies to improve student learning in conjunction with Whole Body Listening, is directly related to OT. As stated in the Occupational Therapy Practice Framework's (OTPF) 2nd edition, the purpose of

OT is "supporting health and participation in life through engagement in occupation" (American Occupational Therapy Association, 2008, p.626). However, a student may not be able to engage in meaningful occupations at school when there is a disconnection between the activity demands and other factors, including performance skills, performance patterns, and the context and environment.

In this project, the students' needs are addressed through intervention directed for the school system. The OTPF includes a broad definition of a client; the client is not always the individual but may be the system or population as well (2008). Thus, using the general education teachers' classroom environment as the client, the demands for learning were addressed. Many students were having difficulty using the Whole Body Listening strategies in the classroom due to their individual client factors of sensory processing challenges, decreased attention and poor social skills. In order to facilitate more desirable student behavior on a system-wide level, teachers were educated on sensory strategies to adapt the environment to fit the students' needs.

Limitations of Project

Limitations were noted in the depth, breadth, and follow-up of the project. Only a handful of resources were used in this project; additional time and funds would have allowed for a more comprehensive analysis of the most useful resources for teachers. The types of resources purchased for teachers only addressed ways to support student learning, not why it is an issue, other factors that may contribute to learning challenges, or more in-depth information on sensory processing dysfunction or legislation. Since this was a preliminary attempt at the school-wide implementation of sensory strategies, only one local elementary school was targeted. Lastly, there was not time for a follow-up with the teachers to answer additional questions or assist in problem solving after the sensory strategies were used in their classes.

Future Steps

Additional directions for building upon this project include following up with the teachers on their use of sensory strategies in the classroom, as well as providing resources on additional topics and to a broader population. Follow-up of this project could be in the form of another online survey, in-service, or meetings with each grade level team to assist in problem solving. Additional topics could include ways to increase acceptance of peers, student monitoring of attention and energy levels, and ways to use these strategies outside of the classroom to increase participation. Further, in order to disseminate this information on a wider scale, a website accessible to teachers remotely at other schools may be useful. This project is likely to be sustainable because it specifically addressed a need of the teachers at Evergreen Primary. Influential parties at Evergreen Primary were involved, including the principal, teachers, OT practitioner, and certified OT assistant. A copy of each of the resources listed was provided to Evergreen Primary and the resource notebook contained information on where to find any of the sensory-based strategies. Research articles demonstrating the effective use of sensory strategies were provided for teacher reference and additional resources were mentioned in the resource notebook as well.

Resources

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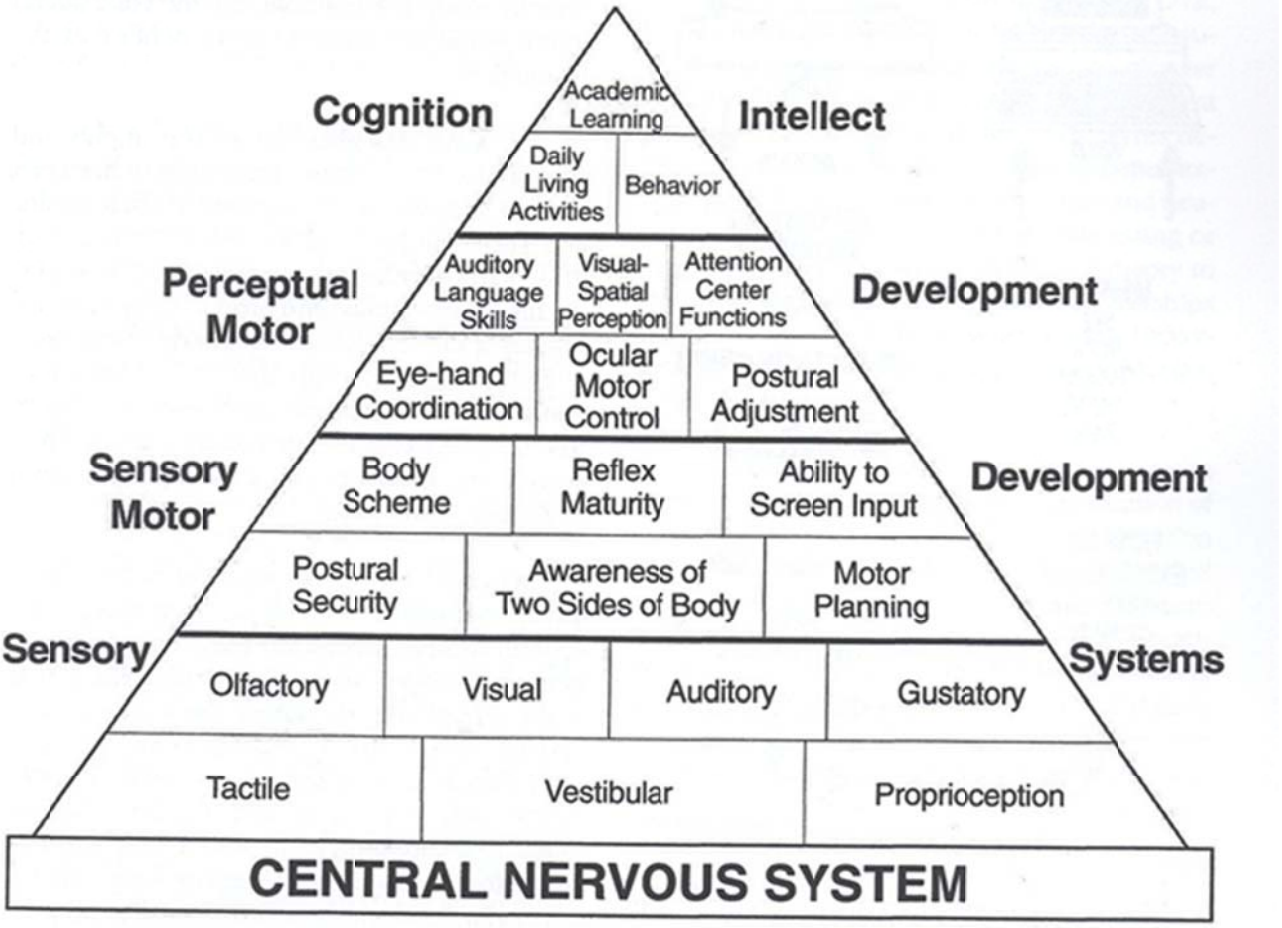
Appendix A

Essential Components Supporting Academic Learning



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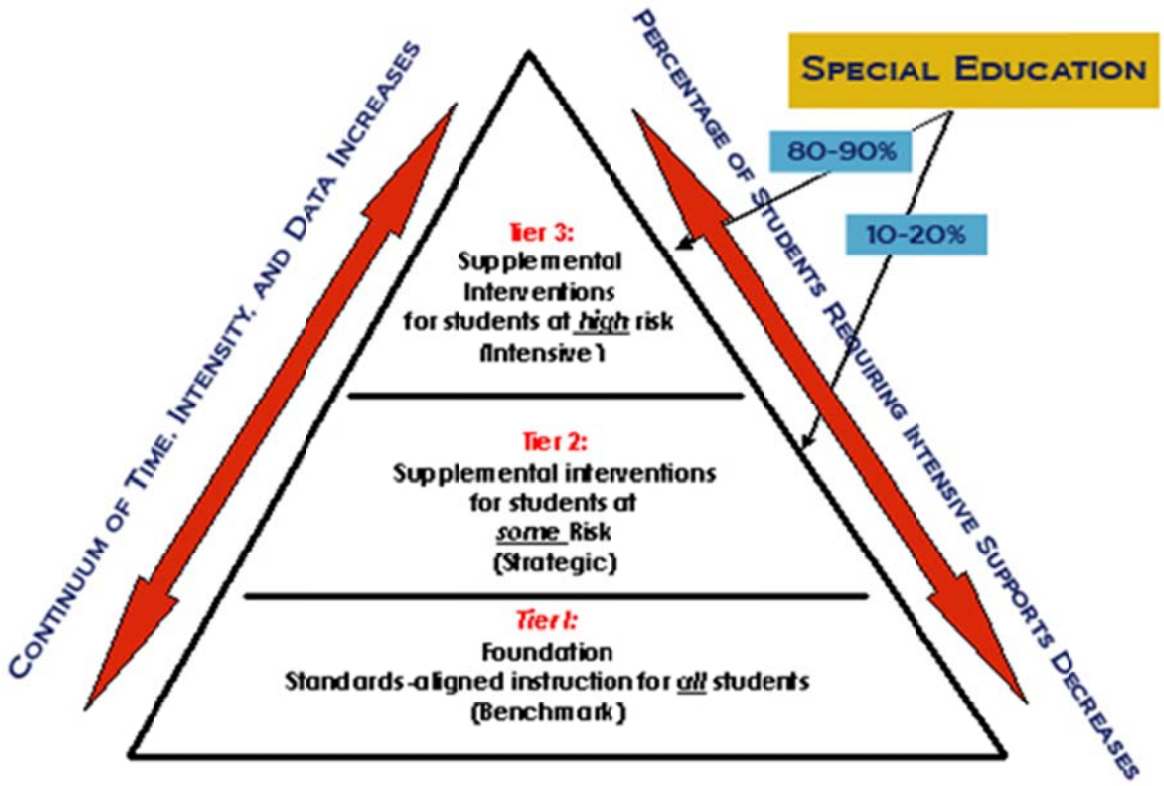
Appendix B

Response to Intervention model



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Appendix C

Human Resources' Contact Information

Evonne Ryken, Occupational Therapist at Evergreen Primary*

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253-566-5680 (main office phone number)

Appendix D

Online survey completed by teachers in April, 2013

Sensory Strategies to Support Whole Body Listening

1. Do you use Whole Body Listening in your classroom?

   Yes No

2. Do you have (or have you had) some students who have a hard time with Whole Body Listening?

   Yes No

3. Which part(s) of Whole Body Listening have you observed students having the most difficulty following? I listen with my…. (You may choose more than one response.)

   Eyes Ears Mouth Hands Feet Body

   Brain Heart

4. List 3 behaviors you see in the classroom that indicate that a student is having difficulty listening.

5. Name 3 strategies you use to support students with difficulties in Whole Body Listening.

6. Do you use any resources to support students during Whole Body Listening? If so, please list them.

Appendix E

Post-test after the in-service on April 30, 2013

Sensory Strategies to Support Whole Body Listening

1. As a result of the in-service, my knowledge of sensory processing challenges in students increased. Please mark your response on the line below.

   _____

   True False

2. As a result of the in-service, my knowledge of ways to support students with possible sensory processing challenges in the classroom increased. Please mark your response on the line below.

   _____

   True False

3. The three most valuable things I learned today were:

   1.

   2.

   3.

4. Please respond with any additional comments in the space below.

Thank you!

Appendix F

Skills and Knowledge Needed to Complete Project

Skills Required for Completion of this Project

Possess?	Skill Required
√	Giving a presentation to large groups of people
√	Problem solving
√	Active listening
√	Creation of a resource notebook
	Grant writing
√	Creativity

Academic Knowledge Required for the Completion of this Project

Possess?	Knowledge Required
√	Analyze why there is a problem and its subsequent effects
√	Activity analysis and techniques for grading
√	Gather information about mission, vision, previous efforts to improve situation
√	Apply the OTPF and theoretical models to an issue
√	Background understanding of sensory processing
√	Basic knowledge of ways to support sensory dysfunction, including strategies that can be used to improve attention

Experiential Knowledge Required for the Completion of this Project

Possess?	Knowledge Required
√	Work with people with different knowledge bases to achieve a common goal
√	Observation in classrooms
√	Culture of the school
	Effective use of sensory strategies in the classroom
	Creation of a budget for a project

Note. √ indicates possession of skill or knowledge.

Appendix G

Project Materials and Costs

Materials/Supplies/Equipment Needed and Costs

Item	Cost
Five copies of the Guide to Resources produced by Fedex (see itemization in Cost of Guide to Resources)	$185.17
Reference resources (see itemization in Reference Resources' Costs)	$359.61
Room for 40 people with projection system (provided by Evergreen Primary)	$0
PowerPoint presentation (program on University of Puget Sound computers)	$0
40 chairs in the room (provided by Evergreen Primary)	$0
Sensory tools for teachers to try during in-service (from University of Puget Sound pediatric clinic and Jennifer Baron's personal collection)	$0
4'' binder for research articles (University of Puget Sound bookstore)	$14.99
35 copies of survey (1 page) and PowerPoint handouts (4 pages total) at $.10/page (printed at University of Puget Sound)	$17.50

Total cost = $577.27

Costs of Guide to Resources

Item	Cost
Page printed in color (1 sided) at $.59/page x 45 pages	$26.55
Coil binding	$4.99
Printing the tabs at $.35/page x 5 pages	$1.75

Cost of one guide = $33.29
Cost of four additional guides = $133.16
One-time fee to create each tab @ $1/tab x 5 tabs = $5.00
Subtotal of five* guides = $171.45
Add tax at 8.8% (dor.wa.gov) = $13.72
Total estimated cost of five guides with tax = $185.17

*Five guides were created. Two went to Evergreen Primary, one to Yvonne Swinth, one to the University of Puget Sound resource room, and to Jennifer Baron.

Note. Costs for Guide to Resources from: FedEx Office Print and Ship Center, 6909 South 19th Street, Tacoma WA, 253-565-4882

Reference Resources' Costs

Item	Cost with shipping and tax
Teaching the Three R's Through Movement Experiences (book) by Anne Green Gilbert (http://www.amazon.com)	$48.17
Drive Thru Menus for Attention and Strength (manual, posters, DVD) by Tere Bowen-Irish (http://www.therapro.com)	$49.95
Wiggle Whomper Activity Kit (kit) by Kari Tanta and Elissa Dykman (http://www.pfot.com)	$205.45
Unscripted Learning: Using Improv Activities Across the K-8 Curriculum (book) by Carrie Lobman and Matthew Lundquist (http://www.aee.org)	$25.10
Brain Breaks for the Classroom (book) by Michelle Gay (http://www.amazon.com)	$11.19
Whole Body Listening Larry at School! (book) by Elizabeth Sautter and Kristen Wilson (http://www.socialthinking.com)	$19.75

Total with shipping and tax included: $359.61

Note. Evergreen Primary has one copy of each of the listed resources in the teacher reference section of the library and may obtain additional copies or additional resources through parent donations, either through the Parent Teacher Student Association or websites such as http://www.donorschoose.org.